General

Guideline Title

Recommendations on screening for developmental delay.

Bibliographic Source(s)

Canadian Task Force on Preventive Health Care. Recommendations on screening for developmental delay. CMAJ. 2016 May 17;188(8):579-87. [50 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates previous versions:

Canadian Task Force on Preventive Health Care. Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa (Canada): Health Canada; 1994. Well-baby care in the first 2 years of life. p. 258-66. [12 references]

Canadian Task Force on Preventive Health Care. Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa (Canada): Health Canada; 1994. Preschool screening for developmental problems. p. 290-6. [20 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

The grades of recommendations (strong, weak) and grades of evidence (high, moderate, low, very low) are defined at the end of the "Major Recommendations" field.

Summary of Recommendation for Clinicians and Policy-makers

The Canadian Task Force on Preventive Health Care (CTFPHC) recommends against screening for developmental delay using standardized tools in children aged one to four years with no apparent signs of developmental delay and whose parents and clinicians have no concerns about development (Strong recommendation, Low-quality evidence).

This recommendation *applies* to children aged one to four years without recognized signs of possible developmental delay and whose parents or clinicians have no concerns about development. These are children whose age-appropriate developmental milestones have been sequentially acquired for gross and fine motor, social, emotional, language and cognitive domains. Milestone ages should be based on the oldest age by which the skill should have been achieved.

This recommendation *does not apply* to children who present with signs, symptoms or parental concern that could indicate delayed development or whose development is being closely monitored because of identified risk factors, such as premature birth or low birth weight.

Definitions

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group Grades of Evidence

High quality — Further research is very unlikely to change confidence in the estimate of effect.
Moderate quality — Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.
Low quality — Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate.
Very low quality — The CTFPHC is very uncertain about the estimate.

Grading of Recommendations

- Strong recommendations are those for which the CTFPHC is confident that the desirable effects of an intervention outweigh its undesirable effects (strong recommendation for an intervention) or that the undesirable effects of an intervention outweigh its desirable effects (strong recommendation against an intervention). A strong recommendation implies that most people will be best served by the recommended course of action.
- Weak recommendations are those for which the desirable effects probably outweigh the undesirable effects (weak recommendation for an intervention) or undesirable effects probably outweigh the desirable effects (weak recommendation against an intervention) but appreciable uncertainty exists. A weak recommendation implies that most women would want the recommended course of action, but many would not. For clinicians, this means they must recognize that different choices will be appropriate for individual women, and they must help each woman arrive at a management decision consistent with her own values and preferences. Policy-making will require substantial debate and involvement of various stakeholders. Weak recommendations result when the balance between desirable and undesirable effects is small, the quality of evidence is lower, and there is more variability in the values and preferences of patients.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Developmental delay

Note: Developmental delay is characterized by a significant delay (i.e., performance 1.5 standard deviations or more below age-expected norms) in one or more of the following domains: gross and fine motor skills, speech and language, social and personal skills, activities of daily living and cognition.

Guideline Category

Evaluation

Screening

Clinical Specialty

Family Practice

Pediatrics

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To present evidence-based recommendations for primary care providers on screening for developmental delay in children aged one to four years with no apparent signs of such delay in primary care settings

Target Population

Children aged one to four years with no apparent signs of delay in primary care settings

Interventions and Practices Considered

Screening for developmental delay in children using standardized tools

Major Outcomes Considered

- Cognitive function
- Academic performance
- Incidence of mental health conditions
- Overall quality of life
- Survival
- Functionality as an adult
- Improvements in gross and fine motor skills, language, adaptive functioning, and cognition and performance

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic review was prepared by the McMaster Evidence Review and Synthesis Centre (ERSC) Team, McMaster University, Hamilton, Ontario for the Canadian Task Force on Preventive Health Care (CTFPHC) (see the "Availability of Companion Documents" field).

Search Strategy

This was a staged review. For Stage I (Screening) randomized controlled trials (RCTs) and controlled clinical trials on effectiveness and harms of screening for children aged 1-4 who were not high risk or suspected of having developmental delay (DD) were sought. In the absence of good-quality evidence, Stage II (Treatment) was initiated, as this indirect evidence may be used to inform a screening recommendation. Stage II involved

three parts. The reviewers searched first for systematic reviews on behavioural or psychological treatment of children aged 1-6 diagnosed with DD or autism spectrum disorder (ASD) or autism disorder (AD). Next, they searched for RCTs on behavioural or psychological treatment of children aged 1-6 diagnosed with DD. Due to a paucity of RCT evidence on the pre-specified outcomes of interest, a third search (Stage II Addendum) was undertaken to identify RCT evidence with domain-specific outcomes. For Stage III (Test Properties) studies of any design were sought that assessed test properties of Canadian relevant screening methods for DD, ASD, and AD. See Appendices 1-5 in the screening and treatment systematic review for specific details of the search strategies.

Eligibility Criteria

Because developmental delay poses a high burden at individual, family and societal levels, rigorous methodologic standards are essential to assess whether developmental screening tools are effective in meaningful ways. For this reason, the review team included only controlled cohort studies and randomized controlled trials (RCTs) to answer the question of benefits of screening, and RCTs and systematic reviews of RCTs as evidence for treatment. (See Table 1 in the published systematic review.) Test properties studies were limited to RCTs and observational studies (cross-sectional cohort and case control studies) with a valid index and reference standard.

Study Selection

Six team members, working in pairs, reviewed titles and abstracts of papers in duplicate; articles marked for inclusion by either member went on to full-text screening, which was performed independently by the same 6 team members. Disagreements were resolved through discussion and consensus. Refer to the McMaster University systematic review for inclusion and exclusion criteria.

The reference lists of 19 identified systematic reviews were searched; no citations were added to the database as a result.

Number of Source Documents

Of the 16,905 unique citations identified, 1,361 were screened in full. Five randomized controlled trials (RCTs), 5 systematic reviews, and 21 observational studies were included. See Figures 2a-2e in the screening and treatment systematic review (see the "Availability of Companion Documents" field).

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group Grades of Evidence

High quality — Further research is very unlikely to change confidence in the estimate of effect.
Moderate quality — Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.
Low quality — Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate.
Very low quality — The CTFPHC is very uncertain about the estimate.

Methods Used to Analyze the Evidence

Meta-Analysis

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic review was prepared by the McMaster Evidence Review and Synthesis Centre (ERSC) Team, McMaster University, Hamilton, Ontario for the Canadian Task Force on Preventive Health Care (CTFPHC) (see the "Availability of Companion Documents" field).

Quality Assessment and Data Abstraction

The strength of the evidence was determined based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system of rating the quality of evidence using GRADEPro software (version 3.2 for Windows, available at http://ims.cochrane.org/revman/other-resources/gradepro/download). This system of assessing evidence is widely used and is endorsed by over 40 major organizations including the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), and the Agency for Healthcare Research and Quality (AHRQ). The GRADE system rates the quality of a body of evidence as high, moderate, low or very low; each of the four levels reflects a different assessment of the likelihood that further research will impact the estimate of effect (i.e., high quality: further research is unlikely to change confidence in the estimate of effect; moderate quality: further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate; low quality: further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate; very low quality: the estimate of effect is very uncertain).

Arriving at a GRADE rating for a body of evidence (see next section) requires a preliminary assessment of the risk of bias or study limitations for the individual studies. For each individual study used to answer any key question (KQ), a review team member extracted data about the population, the study design, the intervention, the analysis and the results for outcomes of interest using a Web-based systematic review software program (DistillerSR, Evidence Partners), and a second team member verified this extraction; disagreements were resolved through discussion or by a third team member.

Assessing Risk of Bias and/or Methodological Quality of Individual Studies

RCT Evidence

All randomized controlled trial (RCT) studies included in the evidence review were assessed using the Cochrane Risk of Bias tool. This rating tool covers six domains: sequence generation; allocation concealment; blinding of participants, personnel and outcome assessors; incomplete outcome reporting; selective outcome reporting; and other risk of bias. Information to determine risk of bias was abstracted from the primary methodology paper for each study and any other relevant published papers. For each study, one team member completed the initial ratings which were then verified by a second person; disagreements were resolved through discussion and/or third party consultation when consensus could not be reached. To assign a high or low risk of bias rating for a particular domain the review team looked for explicit statements or other clear indications that the relevant methodological procedures were or were not followed. In the absence of such details the review team assigned unclear ratings to the applicable risk of bias domains.

To determine the overall risk of bias rating for an outcome group the review team considered all domains. However, greater emphasis was placed on the assessments of the four areas of randomization, allocation, blinding of outcome assessment and selective reporting because those represented most significant sources of introducing bias to RCTs on developmental delay (DD) and hence could lead to biased estimates of outcome findings and conclusions. Tables 2a and 2b summarize the risk of bias ratings applied to the RCT studies included in the screening and treatment review (see the "Availability of Companion Documents" field).

Systematic Review Evidence

The methodological quality of the included systematic reviews was assessed using A Measurement Tool to Assess Systematic Reviews (AMSTAR). AMSTAR is a valid and reliable instrument used to assess the methodological quality of systematic reviews. The AMSTAR checklist is comprised of eleven questions on the design of the review; the selection and extraction of studies; the search strategy; the inclusion of study lists; the assessment and reporting of scientific quality; the methods used to combine studies; the assessment of publication bias and the statement of conflict of interest. Reviews that were rated 11 to 9 using AMSTAR were considered high methodological quality systematic reviews; studies rated 8 to 6 were considered moderate methodological quality and reviews rated 5 to 0 were considered low methodological quality. Please note that the quality of the individual studies included within each systematic review was not assessed. AMSTAR ratings are reported in Table 3 of the screening and treatment systematic review (see the "Availability of Companion Documents" field).

Test Properties

Risk of bias for each study of screening test accuracy was assessed using Quality Assessment of Diagnostic Accuracy Studies 2nd Edition (QUADAS-II). The purpose of the QUADAS tool is to determine the quality of the included primary diagnostic studies. Four domains were assessed including: 1) patient selection; 2) the index test used; 3) the reference standard applied; and 4) the flow of participants through the study and the timing of the delivery of the index test and reference standard. Risk of bias was assessed in each domain, and the first three domains were

also rated on concerns regarding applicability. Signaling questions were used to assist reviewers in identifying items of concern related to study design that could impact interpretation of risk of bias. Table 4 in the screening and treatment systematic review summarizes QUADAS-II ratings for studies included in the review of the test properties of screening tools (see the "Availability of Companion Documents" field).

Data Analysis

The aggregate quality of the body of evidence for each outcome was assessed using the GRADE evidence rating approach based on number and type of studies, study risk of bias, consistency of results across studies, precision and directness of evidence.

The review team could not perform a meta-analysis because of the paucity of studies. The effect estimates from the studies were reported in the form of relative risk (RR) for binary outcomes of interest such as referral rate and academic performance, and rate ratio for time to event outcomes such as time to referral. For studies that showed a significant effect for the effectiveness of screening for developmental delay, the reviewers added the estimates of absolute risk reduction, absolute risk increase and number needed to screen. The numbers needed to screen were estimated using the absolute numbers computed by GRADEPro, which are calculated using control group event rate and relative risk with the 95% confidence interval (CI).

A meta-analysis of treatment RCTs was undertaken. For the continuous outcomes of benefit of treatment of developmental delay such as language impairment, gross and fine motor skills, and adaptive functioning (socialization), the review team utilized change from baseline to immediate post-treatment data (means, standard deviations), and extracted data were meta-analyzed when appropriate. The DerSimonian and Laird random effects model with inverse variance (IV) method was utilized to generate the summary measures of effect in the form of mean difference (MD) if outcome was reported using a single outcome measure or standardized mean difference (SMD) if outcome was reported using multiple outcome measures. For studies where the same outcome was reported using different outcome measures or scales, they selected the primary and validated outcome measure. A weighted composite score was computed for studies where primary outcome measure was reported using multiple sub-scales. MD and SMD were calculated using change from baseline data (i.e., mean difference between pre-treatment [baseline] and post-treatment [final/end-point] values along with the standard deviation [SD] for both intervention and control groups). For studies that did not report SD, the review team calculated this value from the reported standard error (SE) of the mean, or from the 95% CI using equations provided in the Cochrane Handbook for Systematic Reviews of Interventions. The Cochran's Q (α=0.05) was employed to detect statistical heterogeneity and I2 statistic to quantify the magnitude of statistical heterogeneity between studies where I2 30% to 60% represents moderate and I2 50% to 90% represents substantial heterogeneity across studies. Analyses were performed using Review Manager (Version 5.3) and GRADE pro software packages. When studies did not provide data necessary for pooling, results are described narratively.

For the results from systematic reviews reporting on effectiveness and harms of treatment for ASD, a review of reviews was done. Results from systematic reviews that received high scores (9, 10 or 11/11) on AMSTAR were reported narratively. The review team also considered moderate-high methodological quality systematic reviews (rated 8) that focused solely on the population of interest (children aged 1-6). Other moderate methodological quality reviews and low methodological quality reviews were not included in the narrative summary. If a systematic review provided a meta-analysis of studies meeting the criteria, they reported those data. If there was no meta-analysis with studies meeting the inclusion criteria, they looked at the effect sizes and provided a median and range, where possible. For studies reporting SMD, they used Cohen's rule: an SMD of 0.2 or less indicates a very small effect size; a value between 0.2 and 0.5 indicates a small effect; a value between 0.5 and 0.8 indicates a medium effect; and a value of 0.8 or larger indicates a large effect. Results were reported narratively. When possible overall sample sizes for the studies of interest from the systematic review were provided.

The screening test properties data were extracted or calculated across studies from reported sensitivity, specificity and prevalence in 2 x 2 contingency tables (true positive, true negative, false positives and false negatives). Extracted test properties data was meta-analyzed where possible using exact binomial rendition of the bivariate mixed-effects regression model modified for synthesis of screening test data. Summary sensitivity, specificity, and the corresponding positive likelihood and negative likelihood ratios are derived as functions of the estimated model parameters. Areas under the summary receiver operating characteristic (SROC) curves were used as a measure of the screening performance of the test and computed using empirical Bayes approach to fitting the hierarchical summary receiver operating curve (HSROC) model. The summary estimates of negative and positive predictive values were estimated using summary estimates of sensitivity and specificity at a representative pre-test probability (pooled prevalence) obtained from included studies. For outcomes where meta-analysis could not be performed, the sensitivity and specificity, likelihood ratios, and positive and negative predictive values with 95% CIs were recalculated for each primary study from the contingency tables and reported descriptively.

For harms of DD screening, false positive rate (over referral) was calculated as 1 - specificity and false negative rate as 1- sensitivity using data from either pooled estimates or 2 x 2 contingency tables. The studies were primarily grouped based on type of developmental delay such as ASD, AD, any DD and sub-domains of DD, and further sub-grouped based on screening test type such the Modified Checklist for Autism in Toddlers (MCHAT) alone; Checklist for Autism in Toddlers (CHAT); Communication and Symbolic Behavior Scales (CSBS); Ages and Stages Questionnaires (ASQ); Bayley Infant Neurodevelopmental Screener (BINS); Parents' Evaluation of Developmental Status (PEDS); and Screening

Tool for Autism in Toddlers and Young Children (STAT).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Methods

The Canadian Task Force on Preventive Health Care (CTFPHC) is an independent panel of primary care clinicians and methodologists that develops recommendations on clinical preventive services in primary care (www.canadiantaskforce.ca).

The CTFPHC uses a standard methodology, the Grading of Recommendations Assessment, Development and Evaluation (GRADE), to develop clinical practice guidelines based on an assessment of the quality and strength of the evidence (see the "Rating Scheme for the Strength of the Evidence" and "Rating Scheme for the Strength of the Recommendations" fields). This project was led by a work group comprising five members of the CTFPHC and a clinical expert, with support from scientific staff at the Public Health Agency of Canada. The work group established the key and contextual questions, outcomes, analytical framework and search strategy used to develop the research protocol. The entire CTFPHC reviewed and approved the research protocol, evidence review, and complete guideline. External review by stakeholders and peer reviewers was performed at each phase of guideline development.

Analytic Framework and Key Questions (KQs)

The analytic framework for this review is presented in Figure 1 in the screening and treatment systematic review. The framework provides a visual representation of the parameters of the review, including population, interventions, and outcomes of interest (see the "Availability of Companion Documents" field).

Stage I

1. What is the effectiveness of screening children aged 1 to 4 years without suspected developmental delay (DD) to improve outcomes? (outcomes of interest: referral rates for early intervention; time to referral to early intervention; cognitive function; academic performance; incidence of mental health conditions; overall quality of life; survival; functionality as an adult)
    a. What is the optimal interval for screening for DD?
2. What is the incidence of harms of screening children aged 1 to 4 years without suspected DD?

Stage II

3. What is the effectiveness of treatment for children diagnosed with DD to improve outcomes? (outcomes of interest: cognitive function; academic performance; incidence of mental health conditions; overall quality of life; survival; functionality as an adult)
4. What is the incidence of harms of treatment for children diagnosed with DD?

Stage II (Addendum)

- Addendum KQ1. What is the effectiveness of treatment for children diagnosed with DD to improve outcomes in gross and fine motor skills, language impairment, adaptive functioning, intellectual disability (IQ), learning disability (academic testing) and academic underachievement?
- Addendum KQ2. What is the incidence of any harms of treatment for children diagnosed with DD?

Stage III

5. What is the sensitivity, specificity, positive and negative predictive values, and likelihood ratios of the various screening tests to assess DD in children aged 1 to 4 years who are not already suspected of having DD?

Contextual Questions

1. What is the cost-effectiveness and feasibility of screening for DD in preschool children aged 1 to 4 years?
2. What are parent or primary caregiver values and preferences for screening for DD in preschool children aged 1 to 4 years?
3. What is the evidence for a higher burden of disease, a differential treatment response, differential performance of screening for DD, or barriers to implementation of screening for DD in subgroups? Subgroups include: Aboriginal, rural or remote populations, low

socioeconomic status, drug or alcohol dependency, or other ethnic populations.

Grading of Recommendations

Recommendations are graded according to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system. GRADE offers two strengths of recommendation: strong and weak. The strength of recommendations is based on the quality of supporting evidence, the degree of uncertainty about the balance between desirable and undesirable effects, the degree of uncertainty or variability in values and preferences, and the degree of uncertainty about whether the intervention represents a wise use of resources.

Rating Scheme for the Strength of the Recommendations

Grading of Recommendations

- Strong recommendations are those for which the Canadian Task Force on Preventive Health Care (CTFPHC) is confident that the desirable effects of an intervention outweigh its undesirable effects (strong recommendation for an intervention) or that the undesirable effects of an intervention outweigh its desirable effects (strong recommendation against an intervention). A strong recommendation implies that most people will be best served by the recommended course of action.
- Weak recommendations are those for which the desirable effects probably outweigh the undesirable effects (weak recommendation for an intervention) or undesirable effects probably outweigh the desirable effects (weak recommendation against an intervention) but appreciable uncertainty exists. A weak recommendation implies that most people would want the recommended course of action, but many would not. This means that clinicians must recognize that different choices will be appropriate for different individuals, and they must help each person to arrive at a management decision consistent with his or her values and preferences. Policy-making will require substantial debate and the involvement of various stakeholders. Weak recommendations result when the balance between desirable and undesirable effects is small, the quality of evidence is lower or there is more variability in the values and preferences of patients.

Cost Analysis

Economic Implications

The cost-effectiveness of screening was not considered during development of this guideline. However, to the extent that screening children for developmental delay is not supported by evidence, following the recommendation should allow clinicians to focus on more effective and cost-effective services, for example, attending to children at risk for or identified with development delay.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Description of Method of Guideline Validation

Six clinical experts peer-reviewed the systematic review before submission for publication.

The draft guideline was shared for external review by stakeholder organizations and peer reviewers (more than 40 individuals and organizations provided feedback on the guideline). Table 1 in the original guideline document compares the current and previous Canadian Task Force on Preventive Health Care (CTFPHC) guidelines, as well as recommendations from other groups.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

In the judgment of the Canadian Task Force on Preventive Health Care (CTFPHC), the lack of randomized controlled trial (RCT) evidence demonstrating any clinical benefits associated with screening for developmental delay and the relatively poor diagnostic properties of available screening tests warrant a strong recommendation against population-based screening. The CTFPHC places a relatively higher value on the absence of direct evidence showing that screening is beneficial, the poor diagnostic accuracy of screening tests, the risk of false positives that could result from screening and the potential for screening to divert resources from the treatment of children with clinically evident developmental delay.

Potential Harms

In controlled studies, screening tests had poor to moderate accuracy, and their use would generate a high number of false positives among children without developmental delay, which could lead to anxiety and labelling. Furthermore, unnecessary investigation, referral and treatment of children with false-positive results on screening would consume resources that would otherwise be available for the care of children who have clinically evident developmental delay.

Qualifying Statements

Qualifying Statements

The views of the funding bodies have not influenced the content of the guideline. Competing interests have been recorded and addressed. The views expressed in this article are those of the authors and do not represent those of the Public Health Agency of Canada.

Gaps in Knowledge

Developmental delay is an important issue for families and society, but high-quality studies examining the benefits of screening and the long-term effectiveness of treatment are lacking. Given that children with developmental delay are often identified in clinical practice, studies evaluating the best ways to treat children with known developmental delay should be an urgent priority, especially given the promising findings about the potential benefits of treating such problems once they are diagnosed. In addition, high-quality studies that evaluate the potential benefits and the most effective methods for surveillance of developmental milestones or case finding would be useful.

Implementation of the Guideline

Description of Implementation Strategy

Considerations for Implementation

By definition, the recommendation against screening applies only to children in whom developmental delay is not suspected and whose parents and clinicians do not have specific concerns. Although the causes of many developmental delays are unknown, factors such as low birth weight, premature birth, birth complications, congenital infections, serious maternal illness during pregnancy, certain inherited conditions, exposure to toxins and family history of developmental delay may increase the risk. Clinicians should perform developmental surveillance on an ongoing basis and consider the possibility of developmental delay in children with signs that may suggest a delay in a developmental domain, as well as in those whose parents, caregivers or clinicians have concerns about development and those with important risk factors. Clinicians should remain alert for any social, economic or environmental factors (such as lower maternal education level, mental illness, neglect or maltreatment, poverty and English as a second language) that might reduce the likelihood of parents to raise concerns about their child's development. Among children in whom developmental delay is suspected, clinicians should consider further assessment (or specialist evaluation) as clinically indicated. A recommendation against population-based screening for developmental delay should facilitate these objectives by reducing potentially unnecessary referrals to specialists and increasing access to specialized services for children who have clinically evident developmental delay.

Since the previous Canadian Task Force on Preventive Health Care (CTFPHC) recommendation was published, the Canadian Paediatric Society released a position statement supporting an enhanced well-baby visit at 18 months (aimed in part at detecting developmental delay). The statement recommends that practitioners incorporate the use of a health supervision guide, such as the Rourke Baby Record (which includes developmental surveillance), and a developmental screening tool, such as the Nipissing District Developmental Screen, the Ages and Stages Questionnaire or the Parents' Evaluation of Developmental Status, to stimulate discussions with parents about their child's development. Additionally, the province of Ontario introduced a new physician billing code to reimburse primary care providers for applying a standardized screening tool and developmental surveillance using the Nipissing District Developmental Screen and the Rourke Baby Record (or similar tools) as part of a developmental review and evaluation at the 18-month well-baby visit. On the basis of the evidence review, use of the Nipissing District Developmental Screen or other screening tools does not appear to be justified. However, the current task force guideline does not preclude use of the Rourke Baby Record, which is used for developmental surveillance rather than screening for developmental delay.

Although the CTFPHC does not recommend routine screening for developmental delay using a standardized tool in children without developmental concerns at these visits, the 18-month visit is an important opportunity for practitioners to discuss development with parents and to identify any abnormalities in the developmental trajectory, through a careful evaluation of the child's achievement of developmental milestones (i.e., developmental surveillance). Appendix 4 (see the "Availability of Companion Documents" field) provides answers to questions that clinicians may have about this guideline.

Suggested Performance Measures

Given that the CTFPHC has recommended against screening (and that population-based screening for multiple aspects of child-related development is currently practised in some jurisdictions), a clear indicator of the uptake of this guideline would be decreased utilization of population-based screening for developmental delay in children with no known developmental concerns.

Implementation Tools

Audit Criteria/Indicators

Foreign Language Translations

Mobile Device Resources

Quick Reference Guides/Physician Guides

Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Canadian Task Force on Preventive Health Care. Recommendations on screening for developmental delay. CMAJ. 2016 May 17;188(8):579-87. [50 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2016 May 17

Guideline Developer(s)

Canadian Task Force on Preventive Health Care - National Government Agency [Non-U.S.]

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Guideline Committee

Canadian Task Force on Preventive Health Care (CTFPHC) Guideline Work Group

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Financial Disclosures/Conflicts of Interest

The views of the funding bodies have not influenced the content of the guideline. Competing interests have been recorded and addressed.

Competing Interests: None declared.

Guideline Status

This is the current release of the guideline.

This guideline updates previous versions:

Canadian Task Force on Preventive Health Care. Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa (Canada): Health Canada; 1994. Well-baby care in the first 2 years of life. p. 258-66. [12 references]

Canadian Task Force on Preventive Health Care. Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa (Canada): Health Canada; 1994. Preschool screening for developmental problems. p. 290-6. [20 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the Canadian Medical Association Journal (CMAJ) Web site.

Availability of Companion Documents

The following are available:

- Warren R, Kenny M, Bennett T, Fitzpatrick-Lewis D, Ali MU, Sherifali D, Raina P. Screening for developmental delay among children aged 1–4 years: a systematic review. CMAJ Open. 2016;4(1):E20-7. Available from the Canadian Medical Association Journal (CMAJ) Web site.
- Warren R, Kenny M, Bennett T, Fitzpatrick-Lewis D, Ali MU, Rice M, Bayer A, Peck-Reid S, Ciliska D, Sherifali D, Raina P. Screening and treatment for developmental delay in early childhood (ages 1-4): systematic review. Hamilton (ON): McMaster University; 2014 Jun 6 (revised 2015 Oct 28). 117 p. Available from the Canadian Task Force on Preventive Health Care (CTFPHC) Web site.
- Recommendations on screening for developmental delay. Online appendices 1–7. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2016. Available from the CMAJ Web site.
- Developmental delay. Clinician summary. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2016. 1 p. Available in English and French from the CTFPHC Web site.
- Developmental delay. Clinician FAQ. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2016. 1 p. Available in English and French from the CTFPHC Web site.
- Protocol: screening and treatment for developmental delay in early childhood. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2014 Feb 7. 15 p. Available from the CTFPHC Web site.
- Developmental delay — excluded studies. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2016. 115 p. Available from the CTFPHC Web site.
- Screening for developmental delay among children aged 1–4 years—CMAJ author podcast. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2015. Available in from the CTFPHC Web site.
- Canadian Task Force on Preventive Health Care procedure manual. Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2014 Mar. 83 p. Available from the CTFPHC Web site.
- Putting prevention into practice: GRADE (Grades of recommendation, assessment, development, and evaluation). Ottawa (ON): Canadian Task Force on Preventive Health Care (CTFPHC); 2011. 2 p. Available in English and French from the CTFPHC Web site.

There is a CTFPHC mobile app for primary care practitioners available for download from the CTFPHC Web site.

Patient Resources

None available

NGC Status

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